ZOOPARK-1

Artillery/Missile Location Radar System

Mission

The 1L219M Zoopark-1 artillery/missile location radar system radar system is designed to automatically locate firing positions of hostile artillery (mortars, field artillery, multiple rocket and tactical missile systems) by their shots (launches), feed target designation data to friendly counter-battery weapons, and provide damage assessment for them.

In counter-battery fire the radar provides enemy firing position reconnaissance data and real-time corrections of friendly fire, thus enhancing its efficiency by 2-2.5 times (compared with firing without reconnaissance).

Composition

- phased-array radar mounted on the MT-LBu chassis
- maintenance vehicle with the integral ED30-T230P-4RPM1 towed electric powerplant

The Zoopark-1 radar system enjoys high mobility and operational autonomy thanks to integration of all its equipment on the MT-LBU armoured tracked vehicle. It is capable of travelling at high speed over rugged terrain, crossing water obstacles, rapidly deploying on and abandoning positions. Radar deployment/displacement is carried out by the crew from the cabin without dismounting to increase the system's survivability.

The radar system meets all the requirements specified and holds one of the first places among analogue systems.

Basic specifications	
Operating waveband	centimetric
Simultaneous scan sector, deg	90
First-shot firing position detection range, km:	
mortars	20
field artillery guns	15
MLRS	30
tactical ballistic missiles	40
First-shot fire control range, km:	
mortars	22
field artillery guns	20
MLRS	35
tactical ballistic missiles	40
Average firing position/shell burst location errors, m:	
mortars	35
field artillery guns	45
MLRS	60
tactical ballistic missiles	75
Number of targets tracked simultaneously	12
Deployment/displacement time, min	5

FARA-1

Man-Portable Grouped Target Acquisition/Designation Radar

Mission

The 1L111 Fara-1 radar is designed to detect moving ground targets (individuals and groups of people, automobiles and armoured vehicles), to aim heavy automatic weapons and machine guns at concentrated targets round-the-clock in any season, including zero visibility conditions (fog, smoke, dust), and to provide protection of installations and areas of terrain in the automatic mode of operation.

Besides reconnaissance tasks, the Fara-1 radar can be mated with optical and thermal imaging assets to perform surveillance.

In terms of functional versatility the radar has no rivals all over the world.

Composition

The Fara-1 radar consists of a transceiver, an antenna unit with guidance devices, a control panel, a tripod, a radar carrying container, a grenade launcher/machinegun interface device, a standard battery and a power unit to connect to combat vehicle power supply.

The radar's configuration, weight and size allow for its carriage by an operator.

Basic specifications	
Waveband	centimetric
Coverage:	
range, km	up to 5
azimuth, deg	24, 45, 90, 120
Moving target detection range	
(with probability of 0.8), km, at least:	
man	2
tank	4
Average coordinate measurement errors:	
in range, m	20
in azimuth, mil	00 - 20
Into/out-of operation time, min	1
Continuous operation time	
(with a standard battery), hrs	6
Mean time between failures, hrs	5,000
Weight, kg	16.5

CREDO-1

Ground Surveillance Radar

Mission

The 1L244 Credo-1 ground surveillance radar is designed to detect moving ground and water surface targets (a person, a group of people, vehicles) and support artillery fire round-the-clock in any season, including poor visibility conditions (fog, smoke, dust).

Composition

- transceiver
- control panel
- tripod
- radar-carrying container
- battery and external power supply connector unit

The Credo-1 radar is a self-sustained reconnaissance asset whose transceiver and control panel can be mounted on tripod, on self-propelled chassis, or fixed on top of buildings and terrain features.

The radar is powered by a battery or any other 24V DC source.

Basic specifications	
Waveband	centimetric
Coverage:	
range, km	0.15 - 40
azimuth, deg	180
Moving target detection range (POD = 0.8), km, at least:	
person	15
tank	40
truck	40
155mm-round burst coordinates	15
Average location error (in autotracking mode):	
in range, m	10
in azimuth, mil	00 - 02
Number of tracked targets	up to 20
Deployment/displacement time, min	5
Continuous operation time, hrs	24
Weight, kg	100